

Figure 3 shows a compact beam dump built from a round Glidcop plate brazed inside a 6" (152 mm) flange. An elaborate pattern of channels and fins is machined on the backside of this plate to direct water flow from inlet to outlet. The channels cover  $\pm 25$  mm vertically to cover for all possible beam deviations.

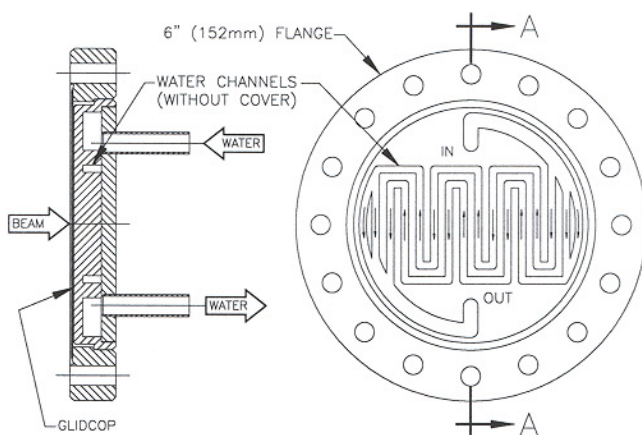


Fig. 3: A Glidcop beam dump with a pattern of machined channels.

### 3.3 RF Taper Absorber

The rf cavities of the APS storage ring have 140-mm circular aperture. A set of four cavities is used in each of the four rf straight sections. Downstream of the last cavity, the aperture is gradually reduced to the elliptical aperture of the vacuum chamber. A surface providing this transition would intercept x-rays from the upstream dipole at a normal power density of 26 watts/mm.

An rf taper absorber, shown in Fig. 4, absorbs this incident power while providing a smooth circular-to-elliptical transition. The transition in the Glidcop body

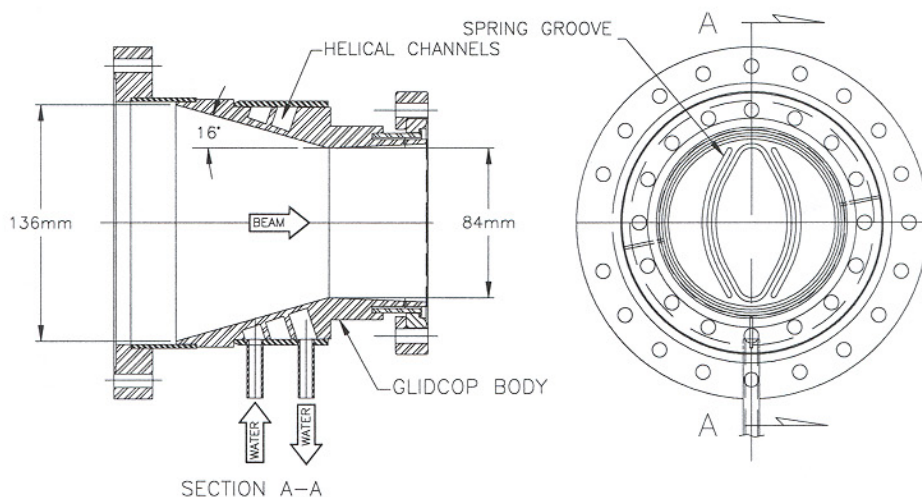


Fig. 4: An rf taper absorber with circular-to-elliptical transition.